**Course: Math 6 CCSS Standard Number(s): 6.EE.1 Day: \_\_\_\_\_\_\_\_\_\_\_**

**Unit # and Title: Unit 1-Base & Exponents Block(s)/Period(s): 1 2 3 4 5 6**

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| **Unit Essential Question(s):** | How do you use exponents to represent numbers?  How are variables used in mathematics?  How can we generate equivalent expressions? | | |
| **Learning Target(s)**  **“I can statements”** | * I can explain the meaning of a number raised to a power. * I can write numerical expressions involving whole-number exponents. * I can evaluate numerical expressions involving whole-number exponents. | | |
| **Essential Vocabulary** | **Power**  **Base**  **Exponent**  **Exponential Form**  **Evaluate**  **Factor**  **Squared**  **Cubed** | | |
| **Resources and Materials** | **Teacher** | | **Student** |
| **PowerPoint on Exponents**  **http://www.ezschool.com/Games/Exponents.html** | | **On Core Lesson 3-1**  **Exponent Puzzle Worksheet** |
| **8 Mathematical Practices:** | | | |
| X 1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  X 3. Construct viable arguments and critique the reasoning of others.  X 4. Model with mathematics. | | 5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | |
| **Activating Strategy**  **(Opening Activity)** | Teacher will introduce the engaging scenario for unit one and explain all tasks. This will lead into a brief discussion on the new Common Core standards as well as the grading policies, curriculum, text, etc.  Write the problem 4 + 4 + 4 + 4 + 4 + 4 on the board. Discuss the advantage of solving as4 • 6 instead of adding. Let students share why multiplication would be easier and quicker than addition. Then write 7 • 7 • 7 • 7• 7 for students to see and discuss possible ways to rewrite the expression that would be simpler to write and solve**.** Explain how exponents and bases can be used to rewrite expressions. | | |
| **Cognitive Teaching Strategies**  **Me/We/Few/You**  **(TIP-Teacher input**  **SAP-Student actively participates**  **GP – Guided Practice**  **IP-Independent Practice)** | **Me:** Using the Math’scool lesson 5.6, introduce exponential notation. Then have students write 5³ in their notes and identify five as the base and three as the exponent or power. Also discuss how this can signify five-cubed and then explain how a power of two may be read as squared. Then allow time for the students to practice reading the expressions correctly, such as three to the fifth power. Model for the students how to accurately read and write the expressions.  **We:** Together, teacher and students will define base and exponent with nonverbal gestures. Base will be represented with fists on hips and exponent will be represented with left hand flashing (opening and closing) in the air over the left shoulder. Then, using sample problems, have students practice writing out the expression before solving. This may be done on white boards or in student notebooks.  **Few**: Students will complete Common Core lesson 3-1, pages 59-61. Students will be allowed to share their responses with their shoulder partner. The correct answers will be shared with the entire class.  **You**: On their own, students will respond to the following journal entries. This may be done during class or for homework, depending on time. Students will also complete the Exponents Puzzle worksheet. | | |
| **Summarizing Strategy**  **(Closing Activity)** | In closing, review the nonverbal gestures for exponents and base by giving the students examples orally with the associated gesture. First five students to correctly evaluate the power will win a treat. (Throw the treat at the student with the ‘flashing’ exponent hand**.** | | |
| **Assessment/Homework** | Journal Entries:  1 - Explain how to write 64 as the factor 2, raised to a power.  2 – Express the following product using exponents. Explain your procedure. 5 to the third power times five to the sixth power. | | |
| **Extending/Refining** | Share a Math Joke: In the Math Olympics, the contestant from Havana calculated the largest result. Everyone else was squarin’ while he was *Cuban*. As time allows, discuss the point/pun of the joke. | | |